Joint MPH program

University of Gondar and Addis continental institute of public health

Quality of tuberculosis care in private health facilities of Addis Ababa, Ethiopia

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A thesis submitted to the school of public health, University of Gondar, in partial fulfillment of the requirements for the degree of master in public health

June 2011

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ACKNOWLEDGMENTS

First of all, I would like to thank University of Gondar and Addis continental institute of public health for creating such a conductive learning environment.

I would like to extend my gratitude to my advisor, Dr. Negussie Deyessa, for his helpful comments and advices from the commencement of the proposal up to the final stage of this research work.

My sincere thanks go to Addis Ababa city administration council Health Bureau ethical committee for reviewing of the proposal, issuing ethical clearance and writing a letter for the cooperation to the respective private health facilities.

I am grateful to all studied private health facility owners and TB clinic focal person for their full cooperation during my data collection.

I would like to extend my special thanks to all data collectors and study participants for their willingness to participate in the study

Finally, my heartfelt thanks go to my families (especially my mother w/o Tewobech H/giyorgis) and all my colleagues who supported and encouraged me during my stay in the school and the study period.

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List of Acronyms

A.A: Addis Ababa

AARHB: Addis Ababa regional health bureau

ACIPH: Addis continental institute of public health

COR: Adjusted Odds Ratio

Dx: Diagnosis

DOTS: Directly Observed Treatment Short Course

EC: Ethiopian Calendar

EPHA: Ethiopian Public Health Association

EPTB: Extra Pulmonary Tuberculosis

FDRE: Federal Democratic Republic Of Ethiopia

FMOH: Federal Ministry of Health

GC: Gregorian calendar

HW: Health Worker

MDR-TB: Multi drug resistant tuberculosis

NTLC: National Tuberculosis and Leprosy Control

PITC: Provider initiated testing and counseling

PPM: Private public mix

PTB: Pulmonary Tuberculosis

Rx: Treatment

SAS: Signs and Symptoms

SPSS: Statistical Package for Social Science

SMS: spot morning spot

TB: Tuberculosis

TLCP: Tuberculosis and Leprosy Control Program

UoG: University of Gondar

WHO: World Health Organization

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ABSTRACT

Problem statement: Ensuring the provision of good quality of TB care in DOTS strategy is an important component of TB control to reduce the harmful effects of poor medical practice and enhances clients' satisfaction and their use of services.

Objective: The objective of this study was to investigate the quality of care for the treatment of tuberculosis (TB) provided in private health facilities of Addis Ababa.

Methods: A facility based cross-sectional study using quantitative and qualitative approaches were conducted based on Donabedian's structure–process–outcome model of health care quality. Quality of care was determined by adherence to National TB Programme guidelines and client satisfaction.

Results: All resources recommended by the National TB Programme guidelines including trained staff, laboratory facilities and drugs were continuously available, except for a shortage of streptomycin, inconsistent supply of laboratory reagent and unavailability of IEC materials. Beside this, most of important components of TB care recommended by national guidelines were delivered for significant proportion of patients. From all the TB Client interviewed, 75% of them were found to be satisfied with each component TB care they received.

Conclusion and Recommendation: The structural and process of TB care service almost fulfills the minimum requirements for implementation of TB care in private health facilities compared with the national guideline. Compliance with national guidelines was also found to be satisfactory. However, offering HIV counseling and testing to TB client was very low compared to TB/HIV guideline. On outcome indicator, client satisfactions to TB care were high. To achieve national goal related to TB/HIV, strengthening HIV counseling and testing at TB clinic and expanding engagement of private facility for TB care are recommended

1. INTRODUCTION

Tuberculosis is a chronic infections disease caused in most cases by mycobacterium tuberculosis, an acid fast road shaped bacillus. Occasionally it can also be caused by *mycobacterium bovis* and *mycobacterium africanum* (1).

TB is transmitted through an air borne spread of droplet containing bacilli expelled by coughing and sneezing and inhaled by healthy persons. People living in the same household, or who otherwise are in frequent contact with an infectious patient have the greatest risk of being exposed to the bacilli. In addition, consumption of raw milk containing *M.bovis* is possible way of getting infected by TB (1, 2).

DOTS (Directly Observed Treatment, Short course) are the internationally recommended control strategy for TB (2, 3). This strategy includes the delivery of a standard short course of drugs to individuals diagnosed with TB. The delivery includes the direct observation of therapy (DOT), either by a health worker or by someone nominated by the health worker and the patient for this purpose (sometimes called a DOT supporter) (3).

The global target for TB control through full DOTS expansion was the attainment of 70% case detection and attainment of 85% cure rate by 2005 (4) .Though critical, these targets are insufficient in achieving the TB- related Millennium Development Goals (MDGs) target of halting the spread and beginning to reverse the incidence of TB by 2015. Unfortunately, even these targets were not achieved, especially in Africa by the year 2005 (5). One major constraint identified as limiting the attainment of these targets is the non involvement of the private sector in the TB control programmes. Thus, WHO observed that the target of 70% case detection would not be reached unless DOTS programmes continue to expand geographically as well as involve

the private sector consequently, and the current stop TB strategy includes calls for promotion of public-private partnership were started in 2006 (5).

Ethiopia ranks seventh among the world's 22 high-burden tuberculosis (TB) countries, with an estimated incidence of all forms of TB of 378 new cases/100,000 pop/year and 163 new smear positive cases/100,000 pop/year; the estimated prevalence of all forms of TB is 579/100,000 population and smear positive TB is 286/100,000 pop .Tuberculosis is the leading cause of morbidity, the third cause of hospital admission and the second cause of death in Ethiopia (6).

The DOTS strategy in Ethiopia started in 1992 and has been subsequently scaled up and implemented in national level. In 2007 DOTS's geographical coverage reaches 95 percent whereas the Health Facility coverage is 75 percent. Despite these, The DOTS detection rate remains low, at 36 percent, compared with WHO's target of 70 percent detection. (6).

The aim of the national TB control programme in Ethiopia is achieving two global targets set by WHO in 2006: detecting 70% of the estimated smear-positive TB cases and curing 85% of the diagnosed smear-positive cases (6). To intensified the access and case detection rate, the FMOH have expanded DOTS services in line with WHO's global recommendation to involve the private sector in the delivery of TB services since 2006 (*Engaging All Health Care Providers in TB Control*, WHO, 2006) which is known as public private mix Directly Observed Therapy-Short Course (PPM-DOTS) (6,7).

Expanding TB care to the private sector increases access to care, particularly for clients who are reluctant to patient load at crowded public facilities and expand access to care for migrant populations who do not have local identity cards necessary to access care at public facilities (8).

Improving access to high-quality services also means reducing the harmful effects of poor medical practice. Inappropriate medical practices for TB diagnosis, treatment and case management contribute to unnecessary suffering for patients, diagnostic delays, continuous spread of TB, high health-care costs for patients and society, and development of MDR-TB. Despite the increment of case detection rate through the engagement of private health facilities in TB care provision is encouraging; the emergence of drug resistance tuberculosis (MDR-TB) become a major public health problem in a number of countries including Ethiopia and an obstacle to the global TB control efforts (9)

Involvement of private sector for DOTS strategy in Ethiopia has been started since 2006 and this initiative increases accesses of service and case detection rate for TB control (8). But to date, in Ethiopia, no study assessing the quality of provision of DOTS service in private health facilities. so assessing the quality TB care service is important to determine whether standards are being practiced in private health facility, to identify potential areas for improvement and to strengthen and implement better TB care in private health facilities.

2. LITERATURE REVIEW

2.1. TB control strategy

The Directly Observed Treatment Short course Strategy (DOTS) was launched in 1994 to address the problem of tuberculosis (TB) globally. It consists of five components, i.e. political commitment, access to quality-assured sputum microscopy, standardized short-course chemotherapy including direct observation of treatment (DOT), uninterrupted supply of quality-assured drugs, and recording and reporting system (10).

To meet the challenge of the Millennium Development Goals, the DOTS strategy was extended to the Stop TB Strategy in 2006. One of the components of the Stop TB Strategy is to engage all care providers. The initiative to involve all care providers in the implementation of quality DOTS strategy, known as Public–Private Mix (PPM) approach, has been conducted in 14 out of 22 countries with high cases of TB (10) . The purpose of PPM evolved from acceleration of case detection rate (11), improvement of quality of TB care for all TB patients and its potential in the prevention of MDR and XDR-TB cases (12).

Evidence shows that PPM DOTS is effective strategy to increase case detection and cure rates, to reach the poor and to reduce the financial burden on patients. It is relevant mainly in urban settings, where it will contribute to making DOTS services available to vulnerable urban populations, such as slum dwellers and migrants. It will also facilitate links between large public facility and public health facilities in the cities (12).

2.2. Quality Assessment

Quality of health care defined as the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (13). Quality of service has two main dimensions. First, service should meet accepted standards or norms. Second, service should please clients (14). Good quality of care enhances clients' satisfaction and their use of services. It also increases job satisfaction and motivation among service providers, and leads to greater sustainability of services (13).

Quality assessment is systematic identifications what level of quality the system is currently producing. It includes collecting and analyzing of data that provides information about level of adherence to established guidelines and standards, problems encountered that limits adherence and opportunities for quality improvement (15).

Donabedian’s structure–process–outcome paradigm is commonly used in quality assessment studies. According to this model structure defined as the tools and resources that providers of care have at their disposal and the physical and organizational setting where they work (the way a health care system is set up and the condition under which it is provided), process as the set of activities that occur within the Health Service Organizations/Health Systems and between practitioners and patients, where judgment of quality may be made either by direct observation or by reviewing recorded information (the activities that constitute health care like diagnosis, treatment, prevention and education) and outcome as the consequence of the health care provided (16).

2.2.1. Structural quality assessment

Structural quality measurements are the resources in the health system, the setting in which care occurs and the capacity of that setting to produce quality. It includes professional characteristics, health service characteristics, infrastructures, equipments and the surrounding environment(16, 17).The underlying concept in structural assessment is to decide whether care is provided under conditions favorable for good health care or not and it is actually relatively the easiest method of quality assessment(18).

2.2.2. Process quality assessment

Process quality measures are direct measures of the quality of health care which is much easier to interpret and are much more sensitive to difference in the quality of health care. It includes the technical aspects of the provided services like provider-client interaction, availability and use of protocols or guidelines in the provision of care, adequacy of information and the technical competency of the provider. It assesses practitioner's activity in making a diagnosis and recommending or implementing treatment (19). Clinical records are the source documents for most studies of the medical care process. Studies of the process of care can lie on direct observations or review of medical records (17, 19). A system of recording and reporting information on tuberculosis cases and their treatment outcomes is one of the key elements of the DOTS strategy (20). WHO and national TLCP manual strongly recommends proper recording and reporting of TB control activities as one element in the processes of TB program management, where all TB control activities has to be recorded daily and reported quarterly (1). However, study conducted in Tigiray and Afar region indicated that about 6.8% and 88.5% of TB patient records' were incomplete respectively (21, 22).

The correct completion of patients' treatment registration is crucial to the patients monitoring and evaluation. A study conducted on assessment of the effectiveness of public - private mix of tuberculosis programme in Kaduna state, Nigeria shows that the significantly lower rate of correct completion of patient records observed in the private health facilities due to high workload at the private health facilities since more cases are managed in those facilities (23). Another study conducted in Indonesia shows that 19 to 53% of Tuberculosis cases and 4-18% of sputum smear positive Tuberculosis cases in hospitals that participated in the PPM-DOTS strategy were not treated with standardized diagnosis and treatment as in DOTS (24).

2.2.3. Output quality assessment

The outcome of medical care, in terms of recovery, restoration of function and of survival, has been frequently used as an indicator of the quality of medical care. However Patient perception of health has gained increasing attention over the past 20 years (25, 26). Patient perception can contribute important information to quality of care assessment that is not gained by monitoring performance alone. There are various reasons for assessing patient perception (26- 28). Firstly, patient satisfaction is considered to be a desired outcome of care, at a time when the technical aspect of medicine are overtaking humanistic factor. Secondly, patient perception is predictive of future behavior (compliance with recommended treatments). Thirdly, patient perception is related to the quality of care, in interpersonal and organizational areas as well as in technical domains. Assessing patient perception may therefore be an important source of information for screening problems and an acceptable plan of action (27, 28)

In this study, no attempt was made to measure all dimensions of quality of service outcome rather attention is restricted to client satisfaction because a satisfied client is more likely to

comply with prescribed medical treatment and completion of treatment which is of utmost priority for TB control programs. Client satisfaction with the services and perceived quality tend to influence utilization of service as well as compliance with practitioner recommendation (29).

For studies of satisfaction with care Ware et al. have proposed a theoretical framework which includes eight dimensions that should be assessed (30). These eight components are: interpersonal manner, technical qualities of care, accessibility/convenience, finance, efficacy /outcome of care, continuity of care, physical environment and availability. However, patients appear very sensitive to aspects of interpersonal relations they have with providers and the technical quality of care provided. Hence, five categories of taxonomy of perceived quality were developed. These are: technical competence of the health care personnel, interpersonal relations between the patient and health care provider, availability of adequate resources and services, accessibility and effectiveness of care (18).

The study conducted in rural Bangladesh showed that the most powerful predictor for client satisfaction was provider behavior, especially respect, politeness and reduction in waiting time (31). Waiting time, real or perceived, is often found to influence satisfaction of the patients (32, 33). Another aspect of quality is patient centeredness; inclusion of patients in the decision-making process, as well as the degree of such participation, has been found to be strongly associated with overall satisfaction (34, 35). Patient perception of the time spent with their health worker is also strongly associated with overall satisfaction (36). Overall patient satisfaction is also influenced by receiving information (37, 38) or clear answers/information from medical staff, or conversely poor explanation of the problems and/or the test results (39).

2.3. Conceptual framework and study variables

Three dimensions of quality of TB care based on Donabedian's structure–process–outcome model were assessed. The specific structural and process elements of TB care were identified from the National-TLCP manual and PPM-DOTS guidelines, Where availability of resources required to provide TB care and supervision are included for structural assessment, while technical performances, use of equipments and supplies for TB control activities, interpersonal relations and convenience of TB care to patients are included for processes of care assessment. And patients' satisfaction level was taken for output quality assessment.

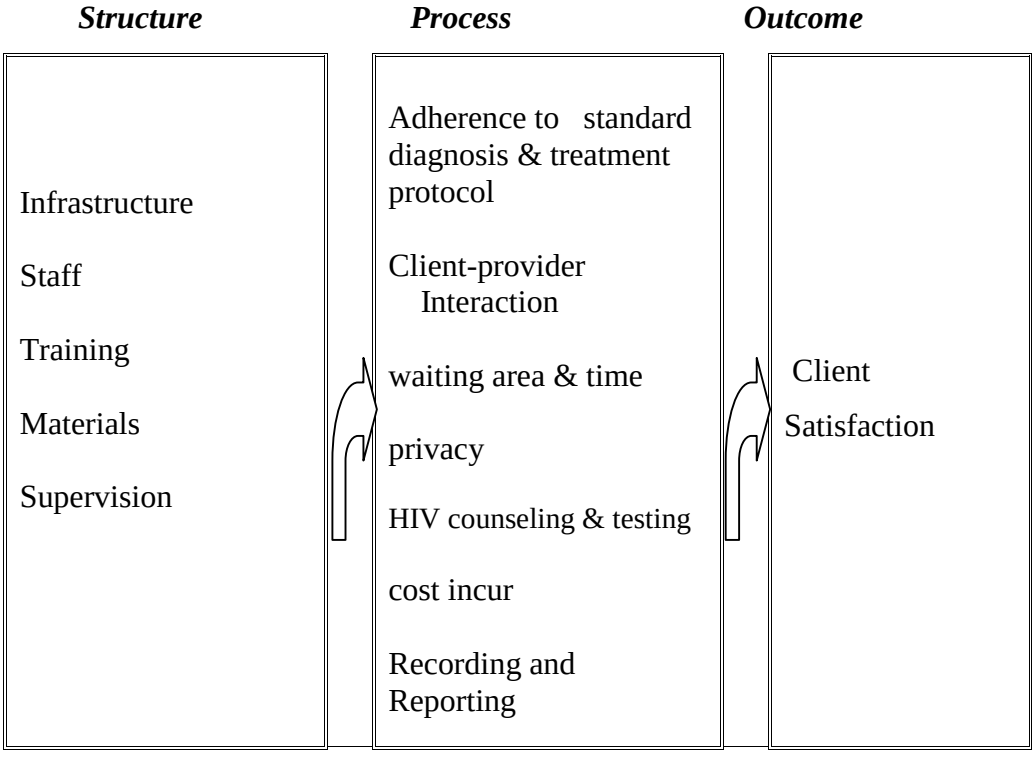

Figure.1. the conceptual framework for assessing quality of TB care in private health facilities of Addis Ababa

3. STUDY OBJECTIVE

General objective

- To assesses the quality of tuberculosis patient care in private health facilities of Addis Ababa.

Specific objective

- To assesses the structural quality of TB care in private facilities of Addis Ababa in terms of infrastructure, staffing, materials, drugs, supplies and supervision.
- To assesses the process quality of TB care in private facilities of Addis Ababa in terms of patient diagnosis, treatment, HIV counseling and testing, recording, reporting and follow up.
- To assess satisfaction level of TB patients with TB care provided in private health facilities of Addis Ababa.

4. METHODOLOGY

4.1. Study area

The study was conducted in Addis Ababa, the capital city of Ethiopia, serves as the social, political, and economic center of the country. It is located at the geographic center of the country and covers a landmass of 540 km^2 and has a total population of around 3 million. The region has 30 hospitals of which 25 are private, 29 health centers, eight not-for-profit clinics, and 442 for-profit private clinics (94 special, 99 higher, 146 medium, and 103 lower) (8).

All over the country, about 150 private health institutions provide TB service. Out of these twenty five are in A.A (ten hospitals and 15 higher clinics) and all of these private health facilities provide the DOTS service for more than two year (8).

4.2. Study design

A cross sectional design was used to describe the status of quality of TB service in private facilities of A.A and both qualitative and quantitative methods were utilized. The study was based on the Donabedian's framework to explain the response of clients and TB service providers.

4.3. Source population:

All private health institutions in A.A are the source population for qualitative study and all TB patients currently in TB care during study period and all TB patients completed their treatment in private health institutions of A.A are source population for quantitative study

4.4. Study population

Private health facility providing DOTS, Heads of private health facility and health workers in TB clinics are study population for qualitative design and study population for quantitative design are all TB patients taking TB care in private health facilities, and all TB patients completed their treatment in the previous one year for record review during study period

4.5. Inclusion and exclusion criteria

4.5.1. Inclusion criteria

All private health facility providing TB care in A.A included in the study and TB patient on intensive phase of treatment are included in the study since they are available on daily basis for medication in health facility. With the purpose of assessing recent practices, patients who had completed their treatment in the previous one year in TB clinic are included for record review.

4.5.2. Exclusion criteria

For the patient interview, patients who visited the clinic for the first time were excluded as they may not have adequate prior experience with the health facility to provide meaningful answers to the questions.

4.6 .Sampling Procedures

A 'rule of thumb' was used for the rough estimation of sample size. According to this rule, for quality assessment of health care if the numbers of units are less than 50, 30-50% of the sample among service provider will be taken. (19). Hence, eight private health facilities (30%) sample from a sampling frame of 15 higher clinic and ten hospitals (five higher clinics and three hospitals) were included for this study.

Selection of eight private health facilities from sampling frame is done by simple random sampling and the following private health facilities were taken.

1. Betel Hospital
2. Betezata Hospital
3. Ethio-tebib hospital
4. Bethsaida Higher clinic
5. Megenagna Higher Clinic
6. Teklehaimanot Higher Clinic
7. Abinet Higher clinic
8. Tesfa Kokeb Higher Clinic

4.7. Sample size determination

4.7.1. Observation and interview of providers

TB control activities in the eight public health institutions (five higher clinic and three Hospital) were observed and Heads of private health facility and health workers in TB clinics were interviewed

4.7.2. Clinical record review

Single proportional survey formula was used i.e.

$N= [z (\alpha/2)^2 * P (1-P)]/ (d)^2$

Where, P=proportion of desired here P=50% of patient record is completed was taken since there is no previous study in private facility.

D=margin error of 5%

CI=confidence interval at 95%

Hence, $N_1 = (1.96)^2 * (0.5) * (0.5) / (0.05)^2 = 384$

$N_1 = 384$

4.7.2.1. Sampling Frame: Health facility TB registration book form was used for the sampling frame for record review study.

4.7.2.2. Study Unit: The study units were randomly selected TB patients who had completed their treatment in the previous year during the study period.

Number of sampled TB patient who completed their treatment in the previous one year for each health facility were allocated proportionally based on the determined sample size and systematic random sampling technique was used to select TB patient from TB registration book from each selected health facility for clinical record review. The first TB patient from TB registration book in each of private health facility was selected by using lottery method.

Table.1. Number of TB patient completed treatment in the previous one year from January 2010 -January 2011 G.C in each health facility.

	Name of Health Facility	**Total No of patient completed treatment**	**No of sampled patient**
1	Betel Hospital	98	36
2	Betezata Hospital	112	41
3	Ethio-tebib hospital	114	41
4	Abinet Higher clinic	97	35
5	Megenagna Higher Clinic	103	37
6	Teklehaimanot Higher Clinic	304	111
7	Bethsaida Higher clinic	135	49
8	Tesfa Kokeb Higher Clinic	93	34
	Total	**1056**	**384**

4.7.3. Exit interview with TB clients

The total numbers of TB clients on in intensive phase in selected health facilities during the study period were only 292. Hence, to get maximum sample size exit interview was collected from all patients on the intensive phase of treatment in these eight private health facilities.

Table.2. Number of TB patient on intensive phase of TB treatment in sampled health facilities

Name of Health Facility	No of TB patient on DOT(intensive phase)
betel Hospital	32
Betezata Hospital	38
Ethio-tebib hospital	31
Abinet Higher clinic	32
Megenagna Higher Clinic	21
Teklehaimanot Higher Clinic	57
Bethsaida Higher clinic	56
Tesfa Kokeb Higher Clinic	25
Total	**292**

4.8. Data Collection Procedure

The specific structural and process elements of TB care were identified from the National-TLCP manual and PPM-DOTS guidelines. And it has been used for the development of questionnaires for structural and process quality assessment. In addition, a standard questionnaire with some modification was used to collect data on client's satisfaction to the given service (22). Four nurses were employed for eight health facilities for exit interview and they got training well on how to make interview. Before the main study conducted pretest of questionnaires were carried out in private health facility not included in the study. Questionnaire for exit interview were translated in to Amharic language for clarity.

4.8.1. Structural assessment

National TLCP performance monitoring checklist was used to assess Structural data i.e. availability of different materials, drugs, equipments and supplies for TB control activities and it was assessed by the principal investigator. Data on staff assignment, training on tuberculosis control activities like AFB microscopy procedures and patterns of service delivery and supervision were collected by making interview to heads of the health facilities.

4.8.2. Process quality assessment

The principal investigator was observing the process of care and review record. Observations and health care providers' interview using guiding questions were made on some TB control activities like whether health education on TB is given in the health facility, time at which TB clinics opened (functioning), adequacy of information given to TB patients, patient's participation in decision-making process, uses of equipments in TB clinics and on the level of provider-patient interaction. Additionally, health workers in charge of TB clinic and laboratory technicians were also interviewed by the principal investigator on any procedures/norms followed in the health facility in the case detection, AFB microscopy procedures, treatment, monitoring and follow-up of TB patients and use of guidelines, manuals etc.... Records review were made to assess the accuracy of care/services given to the patients, where data were collected on the Diagnosis made, Treatments given, on the initial and follow-up laboratory results, HIV test and on Treatment outcome of TB control activities as well as on the documentation system in the selected health institution were made by the principal investigator using guiding checklist to assess the processes of care given to them.

4.8.3. Patients' satisfaction level assessment

Trained nurses conducted the exit interview using standard questionnaire among TB patients' on the intensive phase of treatment in private health facilities. Client's socio-demographic and socioeconomic characteristics, organization of treatment services, provider-client interaction, provider's competence, and adequacy of information were included in the interview.

4.9. Operational definition.

1. Intensive phase- the phase consisting of three or more drugs for the first eight weeks for new cases and 12 weeks for re-treatment cases.
2. Continuation phase- the phase that immediately follows the intensive phase consisting of at least two drugs for 4-6 weeks
3. Satisfaction- the degree to which patients perceive or accept the services as appropriate to them.

4.10. Data quality assurance

Data collectors were trained for one day and the completeness, accuracy and consistency of the collected data was checked on daily basses during data collection by the principal investigator. Incomplete, inaccurate and inconsistence questionnaires were returned back for data collectors to be filled again.

4.11. Data processing and analysis

Data were coded, cleaned and entered in to EPI info then transferred and analyzed using SPSS 16 version software. Also to ensure the quality, data were entered into the computer two times independently and cross-checked each entry. Qualitative data were transcribed and narrated under theme. Descriptive statistics were used to describe the structural, process and outcome quality assessment results. Statistical tests like odds ratio was used for comparison of results. bivariate analysis was used to analyze the association between patients' satisfaction and client characteristics.

4.12. Study variable

4.12.1. Dependent variable

- patient satisfaction

4.12.2. Independent variable

- socio demographic and socio economic variable such as age, sex, educational level, marital status, occupation and monthly income
- Availability and accessibility of services, adequacy of information, provider's competence in providing different services.

4.13. Ethical clearance

Ethical clearance was obtained from University of Gondar and Addis continental institute of public health (ACIPH) institutional review board. Based on the ethical clearance, permission was obtained from Addis Ababa regional health bureau (AARHB) and the respective Health institutions. Oral informed consent was obtained from each study participants before making interview and confidentiality was kept. Anonymity was maintained for all those records reviewed. For those patients less than 18 years old, oral consent was obtained from their parents and information has been collected from their parents.

5. RESULT

5.1. Socio demographic and economic characteristics of respondents

Exit interview of clients at TB service delivery outlet were carried to assess their satisfaction level with medical care for which the response rate of the study was 100%. The total of clients included in the study was 292 and all of them were on intensive phase of treatment. The socio-demographic characteristics of clients are described as follows. More than half of respondents 153(52.4%) were male and 139(47.6%) were female. 184(63%) clients were in the age group 1-34 year. More than forty four percent 131(44.9 %) of the respondents were single the remaining 116(39.7%), (32)11% and 13(4.5%) were married, divorced and widowed respectively. Among a total of 292 clients who were interviewed more than half of them 172(58.2%) were orthodox, 84(28.8%) of them was Muslims and 38(13.0 %) of them was Protestants. Regarding their educational status of clients more than half of them 161 (55.1%) of respondents were grade 12 completed and above and 67(22.9%) of them were in the range of 9-12. From the total respondents, 95(32.5%) and 83(28.4 %) of them were private worker and government employee respectively, followed by merchant, student and house wife which accounted for 49(16.8%), 33(11.3 %) and 6.5% respectively. 201(68.8%) of them have income of less than 1500 br.

From the total 292 TB patients more than half of them 151(51.7%) were in the first month of intensive phase. Regarding their means of transportation to get TB clinic, 56.8% were get TB clinic by walking and the remaining 43.2% clients used car to get TB clinic. The median time-taken to reach the health facilities was 10 minutes, and the median waiting time to see their health care provider was 10 minutes while The minimum and maximum waiting time was 0 and 40 minutes respectively.

Table.3. Socio-demographic and socio-economic characteristics of TB patients in the selected private health facility TB Clinics of A.A, 2011 GC

		Variables	Number	Percent
1	Age group	1-35	184	63.0
		35^{+}	108	37.0
2	Sex	Male	153	52.4
		Female	139	47.6
3	Marital status	Single	131	44.9
		Married	116	39.7
		Divorced	32	11.0
		Widowed	13	4.5
4	Educational status	Illiterate	16	5.5
		Elementary	48	16.4
		Secondary	67	22.9
		Grade 12 completed	98	33.6
		Higher education	63	21.6
5	Religion	orthodox	170	58.2
		Muslim	84	28.8
		Protestant	34	13.0
6	occupation	government employee	95	32.5
		private worker	83	28.4
		house wife	19	6.5
		Merchant	49	19.5
		student	33	11.3
		others	13	4.5
8	Treatment duration	On first month	151	51.7
		On second month	141	48.3
7	Income	1-1500 br.	201	68.8
		>1,500br	91	31.2

5.2. Quality of structure

Infrastructur*e:* TB care in all health facilities is provided in a separate room. The TB rooms in each health facilities have light, ventilation, water supply, chair, table and waiting space for TB clients. DOT service is opened through out Monday to Friday from 8.30 am to 4.30 pm in all health facility.

Staffing: There are a total of 32 specialist, 25 medical doctors, 1 health officers, 146 nurses, 18 laboratory technicians, 13 pharmacy technicians. All the eight health facilities have full time staffs assigned for TB clinic and TB care was run by trained TB nurses. Each health facilities have at least one staff that had been trained on TB control activities and all of them had received refreshment trainings in the last 12 months. All health facilities had at least one laboratory technician who had received AFB microscopy techniques where only four of health facilities had laboratory technician who received refreshment trainings in the last 12 months.

Materials, drugs and Supplies: Recent version of TLCP manual, TLCP laboratory manual, TB unit registration book, TB referral and transfer from, TB sputum examination request from, TB control activity report form is available in all health facilities. Only three health facilities have posted and used TB flip chart and flow chart for diagnosis of PTB+ and four of health facilities had TB posters in different languages in visible place. Except shortage of streptomycin, all of the health facilities had the recommended anti-TB drugs namely rifampcine, isoniazide pyrazinamide and ethambutoal in the stock adequately during study period. As to the laboratory materials for TB diagnosis and control activities all of the health facilities provide routine laboratory tests, including HIV testing, microscopy for TB diagnosis. All the required laboratory supplies based on the National TLCP Implementation Guideline are available in all health facility except for a shortage of staining reagents due to inconsistent supply.

Supervision: All health facilities, 8(100%) had been supervised once in the last 6 months by AAAHB, WoHO and program supporters. The supervision was involved observation of TB registration book, discussion, and guidance in all health facilities, besides all supervised health facilities received written feedback timely.

5.3. Quality of process

Compliance with national guidelines for the provision of TB care was assessed based on clinical practice on 384 patient records, in depth interview with TB focal person, observation of provider patient interaction and exit interview of 292 clients on anti TB drugs collection and HIV counseling and testing service.

Health care providers' interview: in depth interview with TB focal person is done on service provision and all selected health facility use the WHO recommended spot morning spot (SMS) sputum collection for AFB microscopic test. Besides, all the health facilities were using the recommended anti-TB drugs and their dosage based on NTLCP manual. Concerning drug provision to clients on in intensive phase, all eight health facilities provide the drugs to the most of TB clients on daily basis under supervision while some patient took the anti TB drugs for 2-4 days for self administration and come back after finishing. All health facilities monitored Patients' treatment compliance by daily filling patient's TB registration form, pill count and checking on monthly bases during continuation phase. Besides, all health facilities communicate contact person to handle absentee and defaulter. However all health facilities had not health education program that addresses Tuberculosis to their clients as part of their routine daily activities

Record review: Record reviews of TB registration book were conducted on 384 patients who are completed their treatment in the previous one year. All of them were found to have a registered unit TB registration number. Initial diagnostic AFB test were done for 227(59.1%) patients, where 85(37.4%) were positive and 142(62.2%) were negative for AFB.

Table.4. Descriptions of TB registration book record during intensive phase of TB treatment

S.No	Variable category		number	percent
1	Sex	Male	197	51.3
		Female	185	48.7
2	Age group in years	0-4	5	0.5
		5-14	20	6.8
		15-54	297	79.2
		55+	62	13.5
3	Initial diagnostic AFB tests done	Yes	227	59.1
		No	157	40.9
4.	Initial diagnostic AFB result (227)	Positive	85	37.4
		Negative	142	62.6
5	Weight of the patient recorded on intensive phase	Yes	379	99.0
		No	4	1.0
6	Classification of the patient:	PTB^+	85	22.1
		PTB^-	153	39.8
		EPTB	146	38.0
		Unrecorded	0	0.0
8	Drug & its dose given during intensive phase recorded	yes	384	100
		no	0	0.0
9	Follow up AFB microscopy done on 2^{nd} month	Yes	84	95.3
	of Rx (85).	No	1	4.7
10	Result of 2nd month follow up AFB microscopy (84)	Positive	1	0.0
		Negative	83	98.8
		Unrecorded		1.2
11	HIV test done	yes	230	59.9
		No	154	40.1
12	HIV test result (230)	positive	82	35.5
		Negative	148	64.5

During the continuation phase, weight was recorded for all patients while drugs and their dosages given were recorded for 383 (99.7%) patients. Besides, follow up AFB microscopy on the 5th/7th months of treatment were done for 78 (96.3%) of the 81 PTB+ patients, where one (1.23%) was found to be positive, 77 (95.1%) were negative and it was unrecorded for one (3.7%) patient (Table 2).

Table.5. Descriptions of TB registration book record during continuation phase of TB treatment

S.No	Variable category		Number	percent
1	Weight of the Pt on the continuation phase recorded	Yes	384	100
		No	0	0
2	Drug & its dose during continuation phase recorded	Yes	383	99.7
		No	1	0.3
3	Follow up AFB microscopy done on 5/7th month of Rx (81)	Yes	78	96.3
		No	3	3.7
4	Result of AFB microscopy done on 5/7th month of Rx	Positive	1	1.23
		Negative	77	95.1
		Unrecorded	3	3.7
5	Treatment outcome of the patients	Cured	76	19.8
		Treatment Completed	268	69.8
		Died	10	2.6
		Treatment Failure	1	0.3
		Defaulter	2	0.5
		Transfer out	23	6.0
		Unrecorded	4	1.0
6	Completeness of information on TB registration	Complete	373	97.1
		Incomplete	11	2.9

Client interview: exit interview was done to assess anti TB drug collection during intensive phase and HIV counseling and testing status. Of 292 TB clients, 227 (77.7%) were counseled and 65 (22.3%) were not counseled on HIV testing. Among TB clients counseled on HIV, 202 (89.0%) were tested while the remaining 25 (11%) not tested where the main reason mentioned by clients were not voluntariness, laboratory cost and tested before. Concerning anti TB drug collection from the total of TB patient on intensive phase, 199 (68.2%) clients were collecting anti TB drugs on daily basis under supervision from TB clinic while the remaining 93 (31.8%) took the drugs to home for self administration and come back after finishing during the study period.

Provider-Patient interactions: Observation on 71 clients was done to assess provider-patient interactions during they receive the service in TB clinic, it was observed that all health workers in TB room of all health facilities demonstrate greeting, respectful, and encouraging attitude to their patients when they were receiving their drugs. Patients were seen in privacy in TB room and participated in part of decision making processes in the process of service delivery in each facility. Health information on the need to comply with treatment is provided in all health facility

3. Quality of outcome

TB Clients' satisfaction: Clients' degree of satisfaction was asked using different questions as shown in detail in table 4 below. It was found that 30 (10.3%), 22(7.5%) and 20(6.8%) of study participants were dissatisfied in the adequacy and appropriateness of working hours, comfort of waiting area and waiting time respectively. Meanwhile a relatively higher study participants were satisfied with Provider's competence/skill 290(99.3%), the measures taken to assure privacy 290 (99.3%), and Completeness of information given 287(98.3%) as seen Table below.

Table.6. Client's satisfaction level with different components of services

No	Aspects of the variable	Satisfied	Neutral	Dissatisfied
1	Adequacy & appropriateness of working hours	262(89.7%)	0(0.0%)	30(10.3%)
2	Waiting time	271(92.8%)	1(0.3%)	20(6.8%)
3	Time spent with HW	281(96.2%)	3(1.0%)	8(2.7%)
4	Cleanliness of waiting area	276(94.5%)	4(1.4%)	12(4.1%)
5	Comfort of waiting area	265(90.8%)	5(1.7%)	22(7.5%)
6	Cleanliness of examination/treatment room	269(92.1%)	7(2.4%)	16(5.5%)
7	Cleanliness of treatment/diagnosis equipments	268(91.8%)	16(5.5%)	8(2.7%)
8	Respect offered by Health provider	287(98.3%)	3(1.0%)	2(0.7%)
9	Measures taken to assure privacy	289(99.0%)	2(0.7%)	1(0.3%)
10	Provider's competence/skill	290(99.3%)	1(0.3%)	1(0.3%)
11	Cost incurred	286(97.9%)	0(0.0%)	6(2.1%)
12	Completeness of information given	288(98.3%)	2(0.7%)	2(0.7%)

Scaling was done using the twelve satisfaction's related equations shown in table 6. The rating was determined using the 'count value with in cases' in the transform menu of SPSS software. Those TB clients who answered satisfied for each of the satisfaction related questions was taken as fully satisfied. Thus, the total clients who were satisfied fully in their stay at the day of their TB care visit were 219(75%).

Cross tabulation of patients' satisfaction level in the received services versus certain explanatory variables showed that the differences for all cases were not statistically significant.

Table.7. Relationship between clients' satisfaction status and patient characteristics

	Clients' satisfaction status		
Variables	fully satisfied	Not satisfied at least with one component	COR (95 % CI)
Age group (n=265)			
1-35	137(82.0%)	30(18.0%)	
35^{+}	82(83.7%)	16(16.3%)	**1.12(0.58, 2.18)**
Sex (n=265)			
Male	112(81.2%)	26(18.8%)	
Female	107(84.3%)	20(15.7%)	**1.24(0.66, 2.36)**
Educational status (n=265)			
Below grade 12 complete	106(87.6%)	15(12.4%)	
Grade 12 comp. & above	113(78.5%)	31(21.5%)	**0.52(0.26, 1.01)**
Marital status (n=265)			
Single	97(82.2%)	21(17.8%)	
Ever married	122(83.0%)	25(17.0%)	**1.06(0.59, 2.00)**
Occupation (n=265)			
Unemployed	51(85.0%)	9(15.0%)	
Gov. Employee	71(78.9%)	19(21.1%)	**0.66(0.28, 1.58)**
Non Gov. Employee	97(84.3%)	18(15.7%)	**0.95(0.40, 2.27)**
Monthly Income (n=265)			
<=1500 Br.	147(81.2%)	34(18.8%)	
1500^{+} Br	72(85.7%)	12(14.3%)	**1.39(0.68, 2.84)**

6. DISCUSSION

This study used quality criteria which were drawn from the national TB control guideline for the measurement of TB care quality and has addressed three components of quality—structure, process and outcome. The results show that a significant portion of patients attending TB clinic in the study health facilities were got important components of TB care recommended by the national guidelines

Concerning human resource both the quantity and the qualities of staffing were satisfactory except in that half of the health facilities lacked laboratory technician who received refreshment training on TB control activities. Besides the supervision patterns were seems good in all health facilities where all got chance of being supervised in the last six months and the supervision pattern was also scheduled, consistent and involves observation of TB registration book, discussion, and guidance in all health facilities and written feed back is given which totally inconsistent with the WHO and national recommendations where they recommend strong supportive supervision as a way of ensuring staff competence, effectiveness, efficiency and satisfaction through observation, discussion, record reviewing, support and guidance.

Regarding resource availability all health facilities seem to be well equipped with the materials required for TB control activity as per the national standard. However shortages of streptomycin drug and laboratory reagents were reported by providers despite the national TLCP guideline recommend adequate and consistent supply of TB drugs and other consumables should be provided by national/ regional TLCP. This Poor management of supply affects TB control activities and can lead to inadequate treatment and development of MDR-TB.

The patient record was the main source of process indicators used in this evaluation study. The accuracy and completeness of the patient record may result in either underestimating or overestimating some of the indicators. To date, there are no studies done in Ethiopia to compare the reliability of methods to measure health care quality. The correct completion of patients' registration book is crucial to the patients monitoring and evaluation. The significantly higher rate of correct completion of patient records observed in the private health facilities which may possibly be due to frequent staff training and regular supportive supervision. this study revealed that the majority, 373 (97.1%) patient records' were found complete; i.e. treatment for most patients were initiated and continued with proper recording of full information which is critical for patient monitoring. This finding was found to be higher than studies conducted in Afar, where 11.5% of patients' records were found complete. The difference might be explained in terms of geographical, health infrastructure and staffing difference between these areas (22).

Sputum microscopy is the main diagnostic tool for pulmonary tuberculosis (PTB). All suspected TB case had sputum microscopy as their first diagnostic tool. follow up on the 2nd months of treatment seem good in that almost all initially diagnosed PTB+ cases received follow up AFB microscopy which is in line with the national guideline, where it recommends that all PTB+ patients should get follow up AFB microscopy services**.** Similarly, follow up AFB microscopy at the 5th/7th months of treatment were done for 78 (96.3%) of diagnosed PTB+ patients, which again in line with the WHO and FMOH's recommendations.

IEC activities for TB control activities were seems bad as no one health facilities were giving health education that address TB and only half of health facilities have TB posters in different languages being posted in visible public places, despite its being cost effective. This again opposes the national guide line where every treatment facilities are expected to deliver health

education to patients and the public as this is found to be the most effective and efficient strategy in health care programs implementation and interventions.

The patterns of patient-provider interactions were good in that almost all patients were greeted politely, participated in parts of decision making, advised to comply with treatment and speak the same language with the providers. This seems that the processes of care were patient centered services which are in favor to the principles of quality health care and continuous quality improvement approaches**.**

Getting patients regularly to collect their drugs daily under supervision during intensive phase is recommended by the national TLCP manual. However, it is reported by providers and TB clients that relatively high number of TB patients are took drugs for 2 to 3 days to home for self administration and come back after finishing which oppose the guideline and affect TB control activities. This was mainly because physical access to health facility, transport cost by clients, work load by providers, trust between clients and providers and time inconvenience by client.

Monitoring treatment adherence of TB clients is strongly recommended by WHO and national TB guideline for implementing effective treatment compliance, the findings of this study showed that monitoring for treatment compliance was practiced in all health facilities through pill count, ensuring follow up and providing accurate information, which could be again due to staffing training and regular supportive supervision from the respective bodies.

Most of the time TB and HIV occur commonly and impact on each other. Most Studies show that a significant proportion of TB patients are also HIV-infected. WHO recommended PITC to all TB clients as entry point for HIV care and treatment services to reduce the burden of TB/ HIV. However, record review of this study reveals that only 59.9 % TB clients who had completed treatment in the previous one year got HIV test. On the other hand from exit interview

227 (77.7%) TB clients were counseled and 65 (22.3%) were not counseled on HIV testing. Among TB clients counseled on HIV, 202 (89.0%) were tested while the remaining 25 (11%) not tested

TB Patient satisfaction with medical care can trigger the patient motivation to continue with medical treatment untill treatment complition which improves treatment sucess rate. However measuring client' satisfaction might overestimate the satisfaction level in this study since the patients may respond in a relatively positive way fearing of being recognized and similarly only satisfied patients usually visit health facility. In this study the majority of the respondents were satisfied with all components of TB care they received. However relatively higher proportion TB clients were dissatisfied in the adequacy and appropriateness of working hours, 133 (63.6%), which can lead to service rejections by the patients and defaulting which can be associated with incomplete treatment, treatment failure and drug resistances.

7. CONCLUSION

All studied health facilities have adequate resources to provide TB care. Besides each facility had regular and consistent delivery of drugs and supplies for TB control activities. However, shortage of streptomycin TB drugs and inconsistent supply of laboratory reagent for AFB is reported in all facilities. Adherence to national TLCP guidelines was high in all private health facilities as all health facilities were used SMS sputum collection for AFB test, monitor clients' treatment adherence, follow up AFB test at 2^{nd} and $5/7^{th}$ for PTB+ and maintains a standardized recording and reporting TB activities which are the most important aspect of DOTS to prevent and control TB and the development of MDR-TB. However emphasis is not given to health education about TB in all studied private health facilities besides HIV counseling and testing in TB clinic seems weak.

TB clients' satisfaction with TB care was found to be satisfying as majority of TB clients (75%**)** were found satisfied with each component TB care. But there was a relatively high number of TB clients were not satisfied with adequacy and appropriateness of working hour which can lead to patients' dissatisfaction and failure to adhere to treatment which in turn can lead to service rejection, drug resistance and program failure.

8. RECOMMENDATIONS

Therefore, we recommend the followings for concerned stakeholders

- Consistent delivery of materials, drugs and supplies for TB control activities are critical for TB control activities. Ensuring appropriate and uninterrupted supply of all TB drugs and staining laboratory reagents in private facilities is therefore crucial for successful TB control programme.
- Most of the time TB and HIV occur commonly and impact on each other. Strengthening TB / HIV collaboration activity through offering HIV counseling and testing actively and routinely to all TB patients in private TB clinics is important.
- Client satisfaction with the services influences utilization of service as well as compliance with treatment. So attention is necessary in the area where greater dissatisfaction was observed like adequacy and appropriateness of working time.
- Tuberculosis care was good on the whole in private facilities. To maximize the contribution of private health facilities on TB control, expanding engagement of private facility for TB care is recommended.
- Similar research in the future could serve as a basis for monitoring improvement in the quality of TB control programme.

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10. ANNEXES

10.1. Questionnaires

Form I. Questionnaire prepared to assess the structure of TB clinics in private health facility in A.A.

Health facility Name: _____

S.No	Questions	Answers	code
staffing			
100	Number of Health workers in the health institution	Specialist---------- MD _____ HO _____ Nurses _____ Lab. tech. _____ Pharmacy tech. ____ Other (specify)_____	
101	Number of health workers trained on TB control activities	1. One 3. Three & above 2. Two 4. Not at all.	
102	Is there a full time staff assigned in the TB clinic?	1. Yes 2. No---skip to 105	
103	If yes, did he/she ever train on TB control activities	1. Yes 2. No	
104	Have she/he received refreshment trainings on TB control activities soon?	1. Yes------when 2. No	
105	Do you have laboratory technician in your health facility	1. Yes 2. No	
106	If yes, did he/she ever train on AFB techniques?	1. Yes 2. No	
107	Is she/he received refreshment trainings soon?	1. Yes- - - -when 2. No	

Materials			Availability		In use		
			yes	No	yes	no	
108	Latest version of TLCP manual						
109	Latest version of TLCP lab. Manual						
110	Latest version of Tb unit registry						
111	Latest Tb referral & transfer form						
112	Latest version of Tb sputum examination request form						
113	Latest version of quarterly case finding, treatment outcome and other						
114	TB flip chart						
115	Flow chart for Dx and Rx of PTB						
116	TB posters in different language						
117	Weighting scale.						
Anti-TB Drugs			Availability		In use		No... Why?
			yes	no	yes	no	
118	Anti-TB Drugs	RHZ					
		RH					
		EH					
		STM					
		Ethambutol					
119	Have you ever experienced shortage of drugs?		1. Yes 2. No				
120	If yes, for how long?		1. less than a week 2. about a week 3. about two weeks 4. more than two weeks				
121	Do you practice FEFO/FIFO?		1. Yes 2. No				
122	How do you determine your drug requirements?		1. Quantification 2. Guessing 3. Higher officials determine for us 4. Other(specify)				
Laboratory supplies:			availability		In use		
			yes	no	yes	no	

123	Microscope -Binocular -Electrical/Daylight					
124	Xylene (toluene)					
125	Immersion oil with a dropper					
126	Sputum cups					
127	Glove					
128	Cotton wool swab					
129	Cotton/gauze					
130	Pen-blue/red					
131	slides					
132	Slide holder					
133	Wire loop/Wooden applicator					
134	Bunsen burner/Spiral Lamp Burner					
135	Forceps for holding slide and fixing					
136	Staining reagent					
137	Filter paper and glass flasks					
138	Slide rack for staining					
139	Basin if their is no Sink					
140	Water filter can with a tap if no running water					
141	Alarm clock					
142	Waste receptacle (metal with lid)					
143	Box for keeping examined slides					
144	Bucket for water					
145	Disinfectant-5% phenol or 10% sodium hypo chloride.					

Form II. Observation checklist for Service Delivery

Provider- patient interaction:

200. Does the provider great the patient in a friendly/polite manner?

1. Yes 2. No.

201. Does the patient participate in part of decision making process?

1. Yes 2. No.

202. Do the provider and patient speak the same language?

1. Yes 2. No.

Information provision:

203. Does the provider explain how to take the drugs?

1. Yes 2. No.

204. Does the provider explain when to return for the next treatment?

1. Yes 2. No.

205. Does the provider explain the need to comply with the drug treatment?

1. Yes 2. No.

206. Does the provider explain when follow-up sputum microscopy is done?

1. Yes 2. No

Facilities:

211. Does the health facility have separated TB room?

1. Yes 2. No

212. If yes, does the TB room have light and ventilation?

1. Yes 2. No

213. Does the provider have a chair and table?

1. Yes 2. No.

214. Does the patient be able to be attended in privacy?

1. Yes 2. No.

215. Does the TB room have waiting area?

1. Yes 2. No

216. Are all patients able to sit while waiting for treatment?

1. Yes 2. No.

217. Is adequate volume of water available in the TB clinics?

1. Yes 2. No.

Health worker interview

300. Where does the health facility usually get medications and supplies?

1. AARHB. 3. NGO. 2. FMOH

301. How drugs and supplies are usually received?

1. Delivered to facility 2. Picked up from the supplier

302. What is the most common cause of a delay in delivery of supplies? (Check all that apply.)

1. Inadequate transport 3. Administrative difficulties
2. Insufficient staff 4. Financial problems

303. Do you have a regular supervisor?

1. Yes,
2. No (If NO, go to question 308.)

304. Do you have a schedule for supervisory visits?

1. Yes, 2. No

305. How many times have you had a visit from a supervisor?

- In the last 6 months _____ (number of times)
- In the last 12 months _____ (number of times)

306. What did your supervisor do the last time he/she supervised you? (Check all that apply.)

1. Delivered supplies (drugs, lab supplies, etc.)
2. Observed TB registry form,
3. Observed treatment of TB patients,
4. Reviewed reports prepared by health worker
5. Updated health worker on current information
6. Discussed problems with Health Workers.

307. A. Did you receive feedback from that supervisory session?

1. Yes, 2. No

B. If YES, in what form?

1. Supervisory register 2. Written report 3. Oral report

308. What are the most difficult problems that you face in doing your job? (Check all that apply.)

1. Lack of training
2. Poor communication system,
3. Patients don't come to health facility
5. Improper working time
6. Staff shortages (turn over)
8. Lack of supervision (feedback on performance)
9. Lack of supplies and/or stock (health facility, housing)

309. Have you discussed these problems with your supervisor?

1. Yes 2. No

310. Have you received trainings on TB control activities in the last 12 months?

1. Yes 2. No

311. How do you assess suspected cases for TB?

1. Collect and examine sputum for AFB microscopy,
2. Challenge with broad-spectrum antibiotics,
3. Refer for Diagnosis to higher level health facility,

312. What procedures do you follow for sputum collection and examination for suspected cases?

1. Collect sputum immediately and appoint him for the next day (SMS)
2. Appoint the patient to bring his/her sputum the following three mornings (MMM),

313. How do you decide final diagnosis?

1. If Sputum microscopy is suggestive of TB,
2. If suspected cases don't to respond to broad-spectrum antibiotics,
3. X-ray findings suggesting TB,
4. If referred in from other health facility.

314. How do you monitor patient for treatment compliance?

1. Daily filling the registration forms,
2. Checking for absentees on monthly basis (for those on continuation phase),
3. No means of monitoring.

315. How do you retrieve for absentees? (Check all that apply)

1. Contact his/her contact person,
2. Immediately report to my supervisor,
3. Tell to Administrator/opinion leaders of the patient's district,
4. Send information through other patients, 5. Do nothing

316. What do you think is your role TB control activities? (Check all that apply.)

1. Giving health education to patients and the community (TB),
2. Referring/assessing suspected cases for investigation,
3. Diagnose and treat cases,
4. Retrieve absentees,
5. Keep patient records,
6. Report activity reports timely,

317. How do you provide anti-TB drugs for your pt during intensive phase?

1. under Supervision.
2. Give them drugs to take at home & come back after finishing.
3. Both applied depending on patient condition.

318. When do you report TB control activity report?

1. Monthly
2. Quarterly
3. Bi-annually
4. Annually,
5. When asked by supervisor

General information:

1. Time the TB clinic is scheduled to open: _____
2. Time did the TB clinic actually open: _____
3. Time (at or after the clinic opened) did the first patient arrive: _____
4. Time the first patient seen: _____
5. Time the clinic actually closed: _____

Form V. Questionnaire prepared to assess TB client's satisfaction level with TB care provided in private facilities of A.A

Name of health facility……

S.No	*Questions*	*Response category*	code
400	Patient's unit TB number	1. _____ 2. Not recorded	
401	Sex of the patient	1. Male 2. Female 3. Not recorded	
402	Age of the patient	1. _____ 2. Not recorded	
403	Initial diagnostic AFB result	1. Positive. 2. Negative. 3. Not done/unrecorded	
404	Weigh of the patient	1. _____ 2. Not recorded	
405	Classification of the patient	1. Smear positive PTB 3. EPTB 2. Smear negative PTB 4. Not recorded	
406	Category of the patient	1. New 5. Transfer in 2. Relapse 6. Others 3. Failure 7. Not recorded 4. Defaulter	
407	Treatment given during the intensive phase	1. _____ 2. Not recorded	
408	Dose of the drugs during the intensive phase	1. _____ 2. Not recorded	
409	Sputum smear result on the 2nd month of treatment	1. Positive. 2. Negative. 3. Not done/unrecorded	
410	Weight of the of the patient on the second month of treatment	1. _____ 2. Not recorded	
411	Drugs given during the continuation phase	1. _____ 2. Not recorded	
412	Dose of the drugs during the continuation phase	1. _____ 2. Not recorded	
413	Is AFB done on the2nd and 5/7th of treatment?	1. Yes 2. No---skip to 415	
414	If yes, the result is	1. Positive. 2. Negative.	
415	Is HIV test done	1. Yes 2. No---skip to 417	
416	If yes ,the result is	1. Positive. 2. Negative	
417	Treatment out come of the patient	1. Cured 5. Defaulter 2. Treatment completed 6. Transfer out 3. Died 7. Unknown 4. Treatment Failure	
418	Completeness of the registration form	1. Complete 2. Incomplete	

CONSENT:

Hello, my name is _____ . I am working as data collector in a study conducted by the Addis Continental institute of public health jointly with university of Gondar to assess the quality of TB care in Private facility of Addis Ababa. As you are randomly selected from patients taking treatment services in this health institution, I kindly request you to participate in this study. I will ask you some questions related to the services you are getting from this health institution. Your name will not be written in this form and you will never be used in connection with any information you tell me. You don't have to answer any question that you don't want to answer and you may end this interview at any time you want to. Your answers are completely confidential. Your honest answers to these questions will help us better understand about the quality of PPM DOTS services in A.A. The interview will take only about 20-25 minutes. So are you willing to participate in the study?

Yes _____. Go to the next page.

No _____ . Acknowledge and go to the next patient.

Health institution's name and type_____

Interviewer _____

Date of interview _____

Supervisor: Name _____ signature _____

S.No.	**Questions**	**Response Categories**	code
General information:			
500	Sex of the patient	1.male 2.female	
501	Age of the patient	_____(In year)	
502	Marital Status	1. Single 3. Divorced 2. Married 4. Widowed	
503	Educational status	1. Illiterate 3. secondary 2.primary 4.grade 12 complete 5. higher education	
504	Religion	1. Orthodox 3. Protestant 2. Muslim 4. Other(specify)	
505	Occupation	1. Government employee 4. merchant 2. Private worker 5. student 3.house wife 6.other(specify)	
506	What is you approximate monthly income in Birr?		
507	Do you incur cost for your visit?	1. Yes 2. No----skip to 510	
508	If yes, for what purpose?	1. Transport 3. laboratory services 2. Provider' fee 4.Other (specify)	
509	Have you ever visited this clinic for TB services before?	1. Yes 2. No	
510	How long have you been since you start Rx?		
511	Where have you been diagnose your TB case?	1. here 2. Other facility where……..	
512	Do you able to get the TB clinic easily?	1. Yes 2. No	
513.1	How long (minutes/ hours) does it normally take you to the TB clinic?	_____ Minuets /hours	
513.2	By what means you get to TB clinic?	1.walking 2.car 4.other(specify)	
513.4	Can you explain how to collect your anti TB drug collection?	1.On daily basis under supervision 2. took drugs to home & come back after finishing (self administered)	

Organizational issues:

514	How satisfied are you with the adequacy of the schedule (working hours) of the TB clinic for your treatment?	1. Satisfied 2. Dissatisfied 3. Neutral/ I don't know	
515	After arriving at the TB clinic, how satisfied are you with the time spent waiting to receive your treatment	1. Satisfied 2. Dissatisfied 3. Neutral/ I don't know	
515a	About how long (min/hours) did you have to wait?	_____ (minutes/hours	
515b	How long have you waited today?	_____ (minutes/hours	
516	How satisfied are you with the time the health worker spent with you during your visit?	1. Satisfied 2. Dissatisfied 3. Neutral/ I don't know	

Facility equipment and supplies:

How satisfied are you with:

517	The over all cleanliness of the waiting area?	1. Satisfied 2. Dissatisfied 3. Neutral/ I don't know	
518	The over all comfort of the waiting area?	1. Satisfied 2. Dissatisfied 3. Neutral/ I don't know.	
519	The over cleanliness of the examination room/place where you received service?	1. Satisfied 2. Dissatisfied 3. Neutral/ I don't know.	
520	The cleanliness of any instrument or equipment used by the health workers to treat or examine you?	1. Satisfied 2. Dissatisfied 3. Neutral/ I don't know	
521	Have you ever experienced shortage of drugs during your treatment period?	1.Yes 2. No	If no, 524
522	If yes, for how long?	_____(in days/months)	
523	What measures did you take?	1. Referred to other Health facility 2. Purchased from private clinic 3. Interrupted treatment 4. Other (specify)	

Availability of Service:

524	Were all the services you need to treat your problem available at the TB clinic during your visits?	1.Yes 2. No	

525	If not, please list any services, which are not available at the clinic but are important to meet your need?	1. lack of Health Worker in TB clinic, 2. lack of X-ray services 3. Interruption of laboratory services 4. Interruption of anti-TB drugs
526	Have you get HIV counseling?	1.yes 2.No …….skip529
527	Have you get HIV test?	1.yes……..skip529 2.No
528	If no why?	
Interpersonal qualities of service provider:		
529	How are satisfied with:	
529.1	The respect offered by the provider during your visit?	1. Satisfied 2. Dissatisfied 3. Neutral/ I don't know.
529.2	The measures taken to assure privacy during your examination and treatment?	1. Satisfied 2. Dissatisfied 3. Neutral/ I don't know
Professional competence and skill of the Health workers:		
530	How are satisfied with:	
530.1	The provider's skill and ability in treating your problem?	1. Satisfied 2. Dissatisfied 3. Neutral/ I don't know.
530.2	The completeness of the information given to you about your problem?	1. Satisfied 2. Dissatisfied 3. Neutral/ I don't know.
Cost:		
531	How satisfied are you with the cost you incur during your treatment period?	1. Satisfied 2. Dissatisfied 3. Neutral/ I don't know.
Efficacy of treatment:		
532	How satisfied are you with	
532.1	The effectiveness of the service you received at the TB clinic in solving your problem?	1. Satisfied 2. Dissatisfied 3. Neutral/ I don't know.
532.2	The overall services you received from the health worker?	1. Satisfied 2. Dissatisfied 3. Neutral/ I don't know.
530	Would you recommend the services at this health facility to some one else?	1. Yes 2. No

Thank you for your cooperation!!

<u>በአዲስ አበባ የግል ጤና ተቋሞች ዉስጥ የቲቢ በሽተኞችን የህክምና አገልግሎት የእርካታ ደረጃን ለማጥናት የተዘጋጀ መጠይቅ</u>

ጤና ይስጥልኝ፡፡ ስሜ .....ይባላል፡፡

በአዲስ አበባ የግል ጤና ተቋሞች ውስጥ እየተሰጠ ያለውን የቲቢ በሽታ ህክምና ጥራት ለማጥናት በአዲስ ኮንትኔንታልና በጎንደር ዩኒቨርስቲ የህብረተሰብ ጤና ሳይንስ ክፍል አማካኝነት እየተካሄደ ባለው ጥናት ላይ በመረጃ ሰብሳቢነት እየሰራሁ እገኛለሁ፡፡

እርሶ እዚህ የግል ጤና ተቋም ውስጥ የቲቢ በሽታ ህክምና አገልግሎት ከሚያገኙት በሽተኛ ውስጥ በእጣ የተመረጡ ሲሆን በጥናቱ ላይ ለመሳተፍ ፈቃደኛ ከሆኑ እርሶዎ ከሚያገኙት የህክምና አገልግሎት ጋር ተያያዥነት ያላቸው ጥያቄዎችን እጠይቃለሁ፡፡ የእርሶ ስም በዚህ ፎርም ላይ የማይፃፍ ሲሆን የሚሰጡን መልስም ሙሉ በሙሉ ሚስጥራዊነቱ የተጠበቀ ይሆናል፡፡

መመለስ የማይፈልጉት ጥያቄ ቢኖር አለመመለስ የሚችሉ ሲሆን መጠይቁን በፈለጉበት ጊዜ ማቋረጥ ይቻላል፡፡ የሚሰጡት መልስ በአዲስ አበባ የግል ጤና ተቋሞች ውስጥ እየተሰጠ ስላለው የቲቢ በሽታ ሕክምና የጥራት ሁኔታ ለመረዳት ከማስቻሉም በላይ ለወደፊቱም የተሻለ የህክምና አገልግሎትን ለመስጠት ያስችላል፡፡ መጠይቁ ከ10-15 ደቂቃ ሊወስድ ይችላል፡፡ ስለዚህ እስካሁን የተነጋገርነውን ነገሮች ከግምት ውስጥ በማስገባት ከዚህ ቃል መጠይቅ ላይ ለመሳተፍ ፍቃደኛ ኖት

- አዎ ነኝ፡፡ ---------- (በሚቀጥለው ገጽ ይቀጥላሉ)
- ፍቃደኛ አይደለሁም፡፡ ---------- (አመሰግነው ወደ ሌላ በሽታ ይሂዱ)

- የጤና ተቋሙ ስም ----------
- መጠይቁን የሞላው ሰው ስምና ፊርማ ----------
- ቀን ----------
- የተቆጣጣሪ ስምና ፊርማ ----------

	ጥያቄ	መልስ	ኮድ
አጠቃላይ የግል መረጃ፡			
500	የበሽተኛው/ዋ ፆታ	1. ወንድ 2 ሴት	
501	የበሽተኛው/ዋ ዕድሜ	……..(ዓመት)	
502	የበሽተኛው/ዋ ጋብቻ	1. ያላገባ/ች 3. የፈታ/ች 2. ያገባ/ች 4. የሞተችበት/ባት	
503	የበሽተኛው/ዋ የትምህርት ደረጃ	1. ያልተማረ/ች 4.12ኛክፍል ያጠናቀቀ/ች 2. እንደኛደረጃ 5.ከፍተኛ የትምህርት ደረጃ 3. ሁለተኛ ደረጃ	
504	ሃይማኖት ምንድነው?	1. ኦርቶዶክስ 3. ፕሮቴስታንት 2. ሙስሊም 4. ሌላ (ይገለፅ)	
505	ሥራዎ ምንድነው?	1. የመንግስት ሰራተኛ 4. ነጋዴ 2. የግል ስራ/ተቀጣሪ 5. ተማሪ 3. የቤት እመቤት 6. ስራ አጥ/ፈላጊ 7. ሌላ (ይገለፅ)	
506	በግምት ወርሃዊ ገቢዎት ምን ያህል ነው?	---------- ብር	
507	ይህን ጤና ተቋም ለቲቢ ህክምና ሲጠቀሙ ወጪ ያወጣሉ?	1. አዎ 2. አላወጣም	
508	መልስ አዎ ከሆነ ለምን ለምን ያወጣሉ(ይዘርዘር)?	1. ለትራንስፖርት 3. ለለላብራቶሪ አገልግሎት 2. ለህክምና 4. ሌላ (ይገለፅ)	
509	ከአሁን በፊት ይህን የጤና ተቋም ለቲቢ በሽታ ህክምና ጎብኝተውት ያውቃሉ?	አዎ አላውቅም	
510	የቲቢ ህክምና ከጀመሩ ምን ያህል ግዜ ሆኖት?	----------ወር	
511	የቲቢ ህክምና የጀመሩት የት ነው?	እዚሁ ሌላ ቦታ (ይገለፅ)	
512	ወደ እዚህ ጤና ተቋም በቀላሉ መድረስ ይችላሉ?	አዎ አልችልም	
513	ወደ እዚህ ጤና ተቋም ለመምጣት ምን ያህል ግዜ ይወስድቦታል?	----------(ደቂቃ)	
514	ወደዚህ ጤና ተቋም የሚመላለሱት በምንድነው?	1. በእግር 3. በአውቶቢስ 2. በግል መኪና 4. ሌላ (ይገለፅ) 3. በታክሲ	
515	የቲቢ መድሃኒት አወሳሰድዎን ይግለፁልኝ?	በየቀኑ እየተመላለስኩ ጤና ባለሙያው/ዋ ፊት መድሃኒቱን እዉጣለሁ መድሃኒቱን ወደ ቤት ወስጄ ለ…..እጠቀማለሁ	
የድርጅቱ ሁኔታ በተመለከተ፡			

516	በዚህ ጤና ተቋም በሚሰጠው የቲቢ ህክምና የሥራ ሰዓት ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. አልረካሁም 3. አላውቅም	
517	ህክምናውን ለማግኘት በሚጠብቁት ሰዓት ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. አልረካሁም 3. አላውቅም	
518	ምን ያህል ደቂቃ/ሰዓት መጠበቅ ነበረቦት?	---------- (ደቂቃ)	
519	ዛሬ ምን ያህል ጠበቁ?	---------- (ደቂቃ)	
520	የጤና ባለሙያው/ዋ እርሶን ለመርዳት ከእርሶ ጋር በሚያደረገው ቆይታ ረክተዋል?	1. ረክቻለሁ 2. አልረካሁም 3. አላውቅም	
የህክምና መሳሪያ እና አቅርቦትን በተመለከተ፡			
521	በመቆያ ሥፍራው አጠቃላይ የንፅህና ሁኔታ ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. አልረካሁም 3. አላውቅም	
522	በመቆያ ስፍራው ምቾት ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. አልረካሁም 3. አላውቅም	
523	በምርመራ/በህክምና ቦታው የንፅህና ሁኔታ ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. አልረካሁም 3. አላውቅም	
524	የጤና ባለሙያው/ዋ ለህክምና ለምርመራ የተጠቀመበት/ችበት የህክምና መሳሪያ ንፅህና ሁኔታ ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. አልረካሁም 3. አላውቅም	
525	ህክምናን በሚከታተሉበት ወቅት የመድሃኒት እጥረት አጋጥሞት ያውቃል?	አዎ አያውቅም	
526	አዎ ከሆነ ለምን ያህል ግዜ	---------- (ሳምንት)	
527	ምን አይነት እርምጃ ነበር የተወሰደው?	ወደ ሌላ ጤና ተቋም ተላላፍኩኝ ከሌላ መድሃኒት ቤት መድሃኒት ገዛሁኝ ህክምናዬን አቋረጥኩት ሌላ (ይገለፅ)	
የህክምና አገልግሎት አቅርቦት በተመለከተ፡			
528	የጤና ችግሮን ለማከም የሚያስችሉ አገልግሎት በሙሉ በጤና ተቋሙ ዉስጥ አሉ?	1. አዎ 2. የሉም	
529	የሉም ከመለሱ የሌሉትን የህክምና አገልግሎቶች ይጥቀሱ፡፡	በቲቢ ክፍል ዉስጥ የባለሙያ እጥረት የኤክስ-ሬይ አገልግሎት እጥረት የለላብራቶሪ አገልግሎት መቋረጥ የቲቢ የመድሃኒት እጥረት ሌላ (ይገለፅ)	
530	የኤች.አይ.ቪ ምርመራ እንዲያደርጉ በዚህ ጤና ተቋም ተመክረዋል?	አዎ የለም	

531	አዎ ከሆነ ተመረመሩ?	አዎ የለም	
532	የለም ከመለሱ ለምን?		
ባለሙያው/ዋ ከ እርሶ ጋር ያለው አቀራረብ በተመለከተ፡			
533	የጤና ባለሙያው/ዋ በሠጡት ክብር ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. አልረካሁም 3. አላውቅም	
534	በምርመራ ወቅት ምስጢርዎ በመጠበቁ ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. አልረካሁም 3. አላውቅም	
የባለሙያው/ዋ ሙያዊ ክህሎት እና ብቃት በተመለከተ፡			
535	በባለሙያው/ዋ ክህሎት እና ብቃት ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. አልረካሁም 3. አላውቅም	
536	በተሰጡት የጤና ትምህርት /መረጃ ብቃት ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. አልረካሁም 3. አላውቅም	
የህክምና ወጪ በተመለከተ፡			
537	ህክምናዋን በሚከታሉበት ወቅት ባወጡት ወጪ ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. አልረካሁም 3. አላውቅም	
የህክምና አገልግሎት ውጤታማት በተመለከተ፡			
538	በአገኙት የህክምና አገልግሎት ውጤታማት ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. አልረካሁም 3. አላውቅም	
539	በአጠቃላይ በአገኙት የጤና አገልግሎት ምን ያህል ረክተዋል?	1. ረክቻለሁ 2. አልረካሁም 3. አላውቅም	
540	በዚህ ጤና ተቋም ያለውን የጤና አገልግሎት ለሌላ ተገልጋይ እንዲጠቀምበት ምክር ይሰጣሉ?	አዎ አልሰጥም	

ለትብብርዎ አመሰግናለሁ!!

Declaration

I, the undersigned declare that this thesis is my original work in partial fulfillment of the requirement for the degree of Master of Public Health. I also declare that it has never been presented in this or any other university and that all resources and materials used in the thesis have been duly acknowledged.

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Date of submission: _____

This thesis has been submitted for examination with my approval as a university advisor.

Advisor Name: _____**Dr. Negussie Deyessa**_____

Signature: _____

Date of submission: _____ _____